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U-603470
2C.220

April 4, 2001

Docket No. 50-461

10CFR50.73

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Clinton Power Station
Licensee Event Report No. 2001-002-00

Dear Madam or Sir:

Enclosed is Licensee Event Report (LER) No. 2001-002-00: Failure to Incorporate Recommendation from Technical Information Letter Results in Random Reactor Scram During Turbine Valve Testing. This report is being submitted in accordance with the requirements of 10CFR50.73.

Sincerely yours,

J. M. Heffley
Vice President

JRF/krk

Enclosure

cc: NRC Clinton Licensing Project Manager
NRC Resident Office, V-690
NRC Region III, Regional Administrator
Institute of Nuclear Power Operations
Illinois Department of Nuclear Safety

IE22

NRC FORM 366 (1-2001) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES 6-30-2001

Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

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TITLE (4)

Failure to Incorporate Recommendation from Technical Information Letter Results in Random Scram During Turbine Valve Testing

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
									None	05000
02	04	2001	2001	– 002 –	00	04	04	01	FACILITY NAME: None	DOCKET NUMBER: 05000

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) (11)			
POWER LEVEL (10)	96	20.2201(b)	20.2203(a)(3)(ii)	50.73(a)(2)(ii)(B)	50.73(a)(2)(ix)(A)
		20.2201(d)	20.2203(a)(4)	50.73(a)(2)(iii)	50.73(a)(2)(x)
		20.2203(a)(1)	50.36(c)(1)(i)(A)	X 50.73(a)(2)(iv)(A)	73.71(a)(4)
		20.2203(a)(2)(i)	50.36(c)(1)(ii)(A)	50.73(a)(2)(v)(A)	73.71(a)(5)
		20.2203(a)(2)(ii)	50.36(c)(2)	50.73(a)(2)(v)(B)	OTHER
		20.2203(a)(2)(iii)	50.46(a)(3)(ii)	50.73(a)(2)(v)(C)	Specify in Abstract below or in NRC Form 366A
		20.2203(a)(2)(iv)	50.73(a)(2)(i)(A)		
		20.2203(a)(2)(v)	50.73(a)(2)(i)(B)		
		20.2203(a)(2)(vi)	50.73(a)(2)(i)(C)		
		20.			

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
R. Mundlapudi, System Engineer	(217) 937-3969

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On February 4, 2001, Clinton Power Station (CPS) was in Mode 1 at approximately 96 percent power. During performance of turbine valve surveillance testing of the #3 Combined Intermediate Valve, an emergency trip system (ETS) low fluid pressure transient occurred as sensed by the control fast closure pressure switches resulting in an automatic scram. The cause for the event was determined to be an inadequate process for the review and approval of the CPS response to General Electric Technical Information Letter (TIL) 1212-2. This TIL contains a recommendation that a flow restricting orifice be installed in the P-Port of the fast acting solenoid valves in the turbine electrohydraulic control system for main turbine stop valves, control valves, and combined intermediate valves. Installation of the orifice prevents random reactor scrams on low ETS pressure during valve testing. The review of this TIL did not identify that the recommended orifice was not installed in the P-Port of the FASV for the #3 CIV. The corrective actions for this event include installation of the recommended orifices, revising the Operating Experience program procedure, providing training, and reviewing the responses to other operating experience documents.

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NARRATIVE *(If more space is required, use additional copies of NRC Form 366A)* **(17)**

DESCRIPTION OF EVENT

On February 4, 2001, Clinton Power Station (CPS) was in Mode 1 at approximately 96 percent power to perform main turbine valve testing. At 0030 hours Main Control Room (MCR) operators started surveillance procedure 9031.06, "Main Turbine Stop Valve and Combined Intermediate Valve Tests." This surveillance test satisfies Technical Specification Surveillance Requirements 3.3.1.1.9 T9 and 3.3.4.1.1. The surveillance consists of depressing and holding the applicable 'test push-button' to close the Main Turbine Stop or Combined Intermediate Valves, one at a time, to verify proper operation. Upon verification of valve closure, the operator releases the test push-button to open the valve. During the test, valve closure time is recorded. On February 4, 2001, all Main Turbine Stop valves were tested satisfactorily. After completion of the Main Turbine Stop valves, testing began on the Combined Intermediate Valves (CIVs). CIV # 1 and 2 were successfully tested and closure times recorded. When the operator depressed the test push-button for the #3 CIV the valve closed as expected and the operator released the test push-button to open the #3 CIV. While the #3 CIV was opening and at about 1/3 of the stroke, a Reactor Scram occurred. Review of the MCR Alarm Printer indicated that the reactor scram was due to Emergency Trip System (ETS) low pressure trip. During the scram, no abnormal plant or operator response was observed that complicated recovery from the transient.

Main Turbine Stop Valves, Control Valves, and Combined Intermediate Valves, are hydraulic operated spring close valves. The valves are operated by the electrohydraulic control (EHC) system [TG] which, in coordination with the Nuclear Steam Supply System (NSSS) steam bypass and pressure control system [JI], control turbine speed, load, pressure, and flow. The Emergency Trip System closes the Main Turbine Stop Valves, Control Valves, and Combined-Intermediate Valves in the event of a turbine malfunction. In the event of a malfunction, ETS activates to relieve EHC fluid supply pressure from the turbine valves. ETS also provides input to the Reactor Protection System [JC] to cause an automatic scram. The EHC system is designed to allow testing of all turbine valves on line without tripping the unit. The circuit contains a test solenoid, a fast acting solenoid, and orifices to control hydraulic pressure for each turbine valve and the EHC system. The components in this circuit are coordinated so that testing does not create a hydraulic oil pressure transient in the EHC system that could affect the operation of the other turbine valves.

In 1997, General Electric issued Technical Information Letter (TIL) 1212-2, "Plant Scram Frequency Reduction Features for BWR and PWR Nuclear Turbines with MKI or MKII EHC Controls." Recommendation B5, "Insertion of a Restricting Orifice in the FASV P-Port," of the TIL recommended installing an 0.109 inch-diameter restricting orifice into the supply port (P-port) of each FASV to reduce the reset associated EHC system pressure transient during the reset portion of the valve test. This TIL was received by CPS and a condition report (CR) was initiated to disposition this information in accordance with procedure 1016.07, "Industry Operating Experience Document Review Process." The system engineer responsible for answering the CR believed the FASVs already had the recommended restricting orifices installed in the P-Port of the FASVs and no additional action was taken to address Recommendation B5.

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NARRATIVE *(If more space is required, use additional copies of NRC Form 366A)* **(17)**

An investigation after the scram on February 4, 2001, determined that the restricting orifices in the "P" port of the Fast Acting Solenoid Valve for the #3 CIV was not installed. As a result, during the reset portion of the valve test a random scram occurred on low ETS pressure when the FASV repositioned.

No other automatic or manually initiated safety system responses were necessary to place the plant in a safe and stable condition. No equipment or components were inoperable at the start of the event to the extent that their inoperable condition contributed to this event.

CAUSE OF EVENT

The cause for the missing orifice in the P-Port of the FASV was due to an inadequate process for review and approval of the TIL response. TIL 1212-2 was reviewed per CPS 1016.07. The review indicated TIL 1212-2 was applicable to CPS and a CR was generated per the procedure with a corrective action for engineering to review the specific TIL recommendations. The review of the orifice configuration by the system engineer did not identify that the orifices were not installed in the P-Port of all the FASVs. The response was given to the CPS Operating Experience Coordinator and the corrective action for this recommendation was closed per CPS procedure 1016.07. Procedure 1016.07 did not contain guidance for the cognizant department management to review and approve the corrective action response for industry operating experience.

CORRECTIVE ACTIONS

The Main Turbine Stop Valves, Control Valves, and Combined Intermediate Valves, were walked down to determine if the recommended orifice was installed in the P-Port of the respective FASV. The walk down determined that the recommended orifice was not installed in the #3 CIV FASV P-Port and other FASV P-Ports for the turbine valves. The recommended 0.109 inch-diameter restricting orifice was installed in the P-Port of all the FASVs for the Main Turbine Stop Valves, Control Valves, and Combined Intermediate Valves that did not already have the recommended orifice installed.

The existing Operating Experience program procedure will be revised to require a review of the response to operating experience information in addition to the responsible individual, by the cognizant department management. (Action Tracking Item 48586-01)

Lessons learned from this event will be incorporated into the Engineering Continuing Training Program. (Action Tracking Item 48586-02)

A review of open and closed TILs and Service Information Letters (SILs) will be performed to determine if the original response was adequate. (Action Tracking Item 48586-03)

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NARRATIVE *(If more space is required, use additional copies of NRC Form 366A)* **(17)**

ANALYSIS OF EVENT

This event is reportable under the provision of 10CFR50.73(a)(2)(iv)(A) due to an automatic initiation of the reactor protection system. An assessment of the safety consequences and implication of this event identified that this event was not nuclear safety significant. The event was reviewed for the analyzed transients discussed in Chapter 15 of the Updated Safety Analysis Report (USAR). The review determined that this event was within the design basis of the plant.

ADDITIONAL INFORMATION

Clinton Power Station has not reported previous events involving an inadequate review of a TIL resulting in an automatic reactor scram.

For further information on this event, contact R. Mundlapudi, Plant Engineering, (217) 937-3969.